

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE REPLACEMENT OF EXISTING SIGNAL HEADS WITH LED SIGNAL HEADS, INSTALLATION OF VIDEO DETECTION, REMOVAL OF EXISTING PEDESTRIAN SIGNALS AND PUSHBUTTONS FOR THE EAST LEG AND THE INSTALLATION OF LED COUNTDOWN PEDESTRIAN SIGNAL HEADS AND APS PUSHBUTTONS FOR THE EAST LEG OF THE INTERSECTION OF MD 410 (EAST-WEST HWY) AND TAYLOR ROAD. MD 410 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THIS INTERSECTION CURRENTLY OPERATES IN A NEMA SIX-PHASE FULL-TRAFFIC-ACTUATED MODE WITH AN ALTERNATE PEDESTRIAN PHASE FOR THE EAST LEG OF THE INTERSECTION. EXCLUSIVE LEFT TURNS ARE PROVIDED FOR THE EAST AND WEST LEGS OF THE INTERSECTION. A PRE-EMPTION PHASE IS PROVIDED FOR THE NORTHBOUND APPROACH.

CONTROLLER REQUIREMENTS

THE EXISTING FULL-TRAFFIC-ACTUATED EIGHT PHASE CONTROLLER HOUSED IN A BASE MOUNTED CABINET WILL BE USED. A 2-WIRE CENTRAL CONTROL UNIT SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY SHA. VIDEO DETECTION INTERFACE EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY SHA.

SPECIAL NOTE

APS WILL FUNCTION AS FOLLOWS:

TO CROSS EAST-WEST HIGHWAY (CURBSIDE PUSHBUTTONS):

- WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS EAST-WEST AT TAYLOR. SECOND PUSHBUTTON IN MEDIAN, WAIT."
- WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS EAST-WEST HIGHWAY (MEDIAN PUSHBUTTONS):

- WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS EAST-WEST AT TAYLOR. WAIT."
- WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACT PERSONS FOR DISTRICT #3
ARE AS FOLLOWS:

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ASSISTANT DISTRICT ENGINEER-TRAFFIC
PHONE: (301)513-7358

MR. VICTOR GRAFTON
UTILITY ENGINEER
PHONE: (301)513-7350

MR. VERNON STINNETT
ASSISTANT DISTRICT ENGINEER-MAINTENANCE
PHONE: (301)513-7304

CONTACT PERSONS FOR OOTS
ARE AS FOLLOWS:

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS
DIVISION
PHONE: (410)787-7404

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF
TRAFFIC OPERATIONS
(410)787-7630

MR. ED RODENHIZER
CHIEF, SIGNAL OPERATIONS
(410)787-7650

MR. EUGENE BAILEY
CHIEF, SIGN OPERATIONS
(410)787-7676

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

CATEGORY CODE	DESCRIPTION	UNIT	QUANTITY
900000	IP-BASED VIDEO DETECTION INTERFACE EQUIPMENT	EA	1
900000	SHEET ALUMINUM SIGNS 4 - R10-3(1) (9"X15")	SF	4

WIRING KEY

B,E,H	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	Z	STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
C,F,G,L,O,Q	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	EX	USE EXISTING CABLE
M,N,P	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	K,R,S, T,U,V	VIDEO DETECTION CAMERA CABLE (CABLE IS INCIDENTAL TO VIDEO DETECTION CAMERA)
X	EXISTING GROUND ROD	PS	POWER SERVICE
A,I	NON-INVASIVE MICRO-LOOP PROBE 500' LEAD IN CABLE	D,J	NON-INVASIVE MICRO-LOOP PROBE 1000' LEAD IN CABLE

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

CATEGORY CODE	DESCRIPTION	UNIT	QUANTITY
203030	TEST PIT EXCAVATION	CY	2
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	575
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	120
800000	REMOVE AND DISPOSE OF EXISTING SIGNAL EQUIPMENT	LS	1
800000	IP-BASED VIDEO DETECTION CAMERA AND CABLE	EA	6
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS	EA	4
800000	FURNISH AND INSTALL 2-WIRE CENTRAL CONTROL UNIT	EA	1
800000	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD SECTION	EA	4
801004	CONCRETE FOR SIGNAL FOUNDATION	CY	1
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	180
805115	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	110
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	65
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	110
805155	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED	LF	90
810601	NONINVASIVE DETECTOR, 500 FOOT LEAD IN CABLE	EA	2
810605	NONINVASIVE DETECTOR, 1000 FOOT LEAD IN CABLE	EA	2
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	EA	4
813014	INSTALL GROUND MOUNTED SIGN	SF	4
818004	10 FOOT BREAKAWAY PEDESTAL POLE	EA	3
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	EA	36
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	340
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	420
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	LF	430

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND RETURNED TO SHA.
ALL MATERIALS AND EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASING CHART

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅
⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅
⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅	⬅

PHASE 1 & 6	⬅	⬅	G	G	⬅	⬅	R	R	R	R	R	R	DW	DW	DW	DW	
1 & 6 CHANGE	⬅	⬅	G	G	⬅	⬅	R	R	R	R	R	R	DW	DW	DW	DW	
PHASE 2 & 6	⬅	⬅	G	G	⬅	⬅	G	G	R	R	R	R	DW	DW	DW	DW	
2 & 6 CHANGE	⬅	⬅	Y	Y	⬅	⬅	G	G	R	R	R	R	DW	DW	DW	DW	
PHASE 2 & 5	⬅	⬅	R	R	⬅	⬅	G	G	R	R	R	R	DW	DW	DW	DW	
2 & 5 CHANGE	⬅	⬅	R	R	⬅	⬅	Y	Y	R	R	R	R	DW	DW	DW	DW	
PHASE 4 & 8	⬅	⬅	R	R	⬅	⬅	R	R	G	G	G	G	DW	DW	DW	DW	
4 & 8 CHANGE	⬅	⬅	R	R	⬅	⬅	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
PHASE 4 & 8 ALT	⬅	⬅	R	R	⬅	⬅	R	R	G	G	G	G	WK	WK	WK	WK	
PED CLEARANCE/COUNTDOWN	⬅	⬅	R	R	⬅	⬅	R	R	G	G	G	G	FL/DW	FL/DW	FL/DW	FL/DW	
4 & 8 ALT CHANGE	⬅	⬅	R	R	⬅	⬅	R	R	Y	Y	Y	Y	DW	DW	DW	DW	
PRE-EMPTION	⬅	⬅	R	R	⬅	⬅	R	R	G	G	R	R	DW	DW	DW	DW	
PRE-EMPT CHANGE	⬅	⬅	R	R	⬅	⬅	R	R	Y	Y	R	R	DW	DW	DW	DW	
FLASHING OPERATION	FL/⬅	FL/⬅	FL/Y	FL/Y	FL/⬅	FL/⬅	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	

MD 410 EB & WB HAZARD IDENTIFICATION BEACONS SHALL FLASH ALTERNATELY IN ACCORDANCE TO SCHOOL HOURS OF OPERATION

GENERAL NOTES

- LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SECTION 4E.09 AND FIGURE 4E.3 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
- PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
- THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
- PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE.
- ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
- THE CONTRACTOR SHALL VERIFY ALL POLE LOCATIONS PRIOR TO INSTALLATION.
- VIDEO DETECTION CAMERA LOCATION/ALIGNMENT SHALL BE COORDINATED WITH THE ENGINEER.
- THE CONTRACTOR SHALL CAP AND ABANDON CONDUIT FEEDING SIGNAL EQUIPMENT THAT IS REMOVED.
- ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK GRADE.
- ACCESSIBLE PEDESTRIAN CONTROL EQUIPMENT SHALL BE DELIVERED TO THE SHA SIGNAL SHOP FOR TESTING AND PROGRAMMING PRIOR TO INSTALLATION. CONTACT MR. EDWARD RODENHIZER AT 410-787-7652 TO COORDINATE.
- SLOTTED CONDUIT SHALL BE INSTALLED PRIOR TO FINAL PAVEMENT SURFACE.

SHA

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 410 @ TAYLOR ROAD
RIVERDALE PARK, MARYLAND

REVISIONS

GENERAL INFORMATION SHEET

SCALE NONE DATE JUNE 2011 CONTRACT NO. PG1075177

DESIGNED BY BJB COUNTY PRINCE GEORGE'S

DRAWN BY AMR LOGMILE 16041004.17

CHECKED BY BLB TMS NO. K 864

FAP NO. TOD NO.

TS NO. 32046 DRAWING SP-2 OF 2 SHEET NO. 2 OF 2

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